



Alfa Laval Air Cooled Exchangers, Inc.

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230463

PERFORMANCE SHOWN IS FOR ONE BAY. (1) BAYS REQUIRED

Date	1/14/2014
Proposal	13967PS2
Reference	AC-5
Item Number	

1	Customer	TENAWA	Ultimate Customer	
2	Plant Location	HAVEN PLANT	No. of Bays	1
3	Service	HOT OIL TRIM		
4	Model	E132-2-36	MTD(Eff.)	123.0 F
5	Surface per Unit-Finned Tube	53,277	Bare Tube	2490 Sq Ft
6	Heat Exchanged	17,470,215	BTU/hr	
7	Transfer Rate-Finned Tube	2.67	Bare Tube Service	57.04 BTU/(hr*sqft°F)

PERFORMANCE DATA - TUBE SIDE

8	Fluid Name	HOT OIL TRIM		IN	OUT
9	Total Fluid Entering	lb/hr	143594.3	Density	lb/ft3
10				Sp Ht (Liq/Vap)	BTU/lb°F
11	Temperature	F	400.0	Cond. (Liq/Vap)	BTU-ft/hr/ft2/F
12	Liquid	lb/hr	143594.3	Pour/Freeze Point	F
13	Vapor	lb/hr		Bubble Point	F
14	Nocond	lb/hr		Latent Heat	BTU/hr
15	Steam	lb/hr		Pressure	psi
16	Water	lb/hr		Press Drop Allow/Calc	psi
17	Viscosity (Liq/Vap)	Cp	0.57	Fouling Resist, Inside	(Ft2*hr°F)/BTU

PERFORMANCE DATA - AIR SIDE

18	Air Quantity	SCFM 298,244	lb/hr 1,370,015	Altitude Feet	1,500.00
19	Air Quantity/Fan	ACFM 166,717		Temperature In F	100.0
20				Temperature Out F	154.0

DESIGN - MATERIAL - CONSTRUCTION

21	Design Pressure	100 psi	Test Pressure	130 psi	Design Temperature	650/-10 F
22	TUBE BUNDLE		Header Type		BOX W/PLUGS	
23	Size	12.6 Ft W x 37.0 Ft L	Header Material	SA-516-70	Tube Material	SA214(WLD)
24	Rows	4	No. Pass	4	Slope	OD 1 Min Thk 0.083
25	Bays	1	Plug	SA-105 SHOULDER	No/Bundle	266 Length 36.0
26	Bundles	1	Gasket	Soft Iron	Pitch	2.25
27	Pass Arrange	EVEN	Corrosion Allowance	0.0625 In	Fin Type	EMBEDDED
28	Rows/Pass		Inlet Nozzle	4-150RF	Fin Material	ALUMINUM
29	Bugscreen	NO	Outlet Nozzle	4-150RF	OD	2.25 Fin Thk 0.015
30	Steam Coil		Bypass Nozzle		No/inch	10 Support Scalloped Channel
31	Hailscreens	YES	Vent	1	Drain	1 ASME VIII, Div1 Stamp YES W/NB
32	Louver Control		TI		PI	NDE
33	Auto Recirc System	NO	Turbulator		Accelerator	Tube Hole Groove YES Heat Treat

MECHANICAL EQUIPMENT

34	Fan Model	MOORE SERIES 36	Driver Type	(2) 40 HP 1800 RPM 460/3/60 TEFC electric motor(s)	Speed Reducer	Type V-Belt
35	No/Bay	2	RPM	396	No/bay	2 Belts 2
36	Diameter, In	132	No. Blades	5	Size	40 HP Sheave Shvs
37	Fan Pitch		Angle	19 Degrees		No/Bay
38	Blade Matl	Aluminum	Hub	Aluminum		
39	HP/Fan Req'd	36.2	DBA		Vibration Instrument	Murphy(VS-2-EX) XP Switch

STRUCTURE

WALKWAYS AND LADDERS

40	Mounting		Walkway or Handrail	NO
41	Windload	Seismic	Ladder	NO
42	Finish Hot dip galvanized and metalized structure and headers			

NOTES

43	REVISION #1: Design Pressure changed from 100 psig to 125 psig and nozzle rating changed from 150# to 300#, 3/11/14			
44				
45	Width	12.7	Height	9.8
	Length	37.0	(Feet)	
				Total Weight
				30,024 (Lb)